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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/989,682

11/20/2001

Raymond Clarke

13282-2

9733

7590

06/16/2006

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Pasadena, CA 91101

EXAMINER

WEINSTEIN, STEVEN L

ART UNIT

PAPER NUMBER

1761

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/989,682

Applicant(s)

CLARKE, RAYMOND

Examiner

Steven L. Weinstein

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-24 and 27-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-24 and 27-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19-24 and 27-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cummin et al (3,798,333) in view of applicant's admission of the prior art, further in view of Herdeman (5,658,607), further in view of Badran (3,450,542), Scolaro (Ep 752,378), Badran et al (3,450,544), De Moor (6,013,293), Anderson (4,842,875), Antoon (5,045,331), and Shimizu (Jp 57-94244), essentially for the reasons given in the Office action mailed 3/31/04.

In regard to claim 19, Cummin et al ('333) discloses that applicant is not the first to store bananas in a sealed bag that is permeable to O₂ and CO₂. As applicants admission of the prior art, Badran, Scolaro, Badran et al, De Moor, Anderson and Antoon attest to, the application of gas permeable packages and modified atmospheres to slow down ripening and increase storage life of produce, including bananas is notoriously old. The permeability of these packages are such that they are more permeable to O₂ than to CO₂ so as to form or maintain atmospheres within the packages, when coupled with the respiration rate, weight of produce and other known variables, that are higher than atmospheric in their CO₂ concentration, and lower than atmospheric in their O₂ concentration. Claim 19 recites that the sealed package has a specific range of O₂ and Co₂, but these ranges are well established in the art for

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produce including bananas; higher than atmospheric CO₂ and lower than atmospheric O₂. Applicant's admission of the prior art as further evidenced by the art taken as a whole discloses modified atmosphere storage of produce is conventional. It is noted that the recited concentration ranges read on the disclosed amount of O₂ generally recognized by the art taken as a whole as levels of oxygen for good storage life. To store the sealed oxygen permeable package in the modified atmosphere is seen to have been obvious in view of the art taken as a whole. It is noted that Herdeman further discloses reducing oxygen upon initiation of ripening. It is also noted that the claims do not appear to indicate any time relationship for the gas concentrations. That is, whether or not the gas concentrations are maintained at the recited range or they vary with time. In any case, the art taken as a whole teaches one to manipulate the known variables to provide a low O₂, high CO₂ atmosphere that will be steady state. The art taken as a whole clearly teaches that the variables in produce storage such as oxygen and temperature can be manipulated to achieve optimal results but that lower oxygen and higher carbon dioxide concentrations relative to atmospheric is necessary for all produce. Applicant's admission of the prior art as further evidenced by Shimizu discloses that the use of exogenous ethylene (e.g. as a ripening agent) is conventional in the banana storage art and to modify Cummin et al and add such an agent for its art recognized and applicant's intended function would have been obvious. Shimizu adds the agent to the package. The art taken as a whole teaches weight of produce, temperature, and permeability are all interrelated variables in modified atmosphere produce packaging and to select particular values for these variables such as the

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permeability of the bag to O₂ and CO₂, in order to optimize preservation would have been an obvious matter of routine determination in view of the art taken as a whole. Note, too, that the art taken as a whole teaches providing sealed containers with ethylene for shipping would have been obvious (e.g. Shimizu) and the use of microporous polymeric film with a polymeric coating thereon for providing a "pathway" for O₂, CO₂ and ethylene – i.e. a breathable sheet – is shown to have been obvious by DeMoor. The claims are also rejected employing Shimizu as the primary reference to teach both a shipping container containing sealed packages and the sealed package itself that have bananas passed their climacteric and wherein the packaging is permeable to the gases of respiration and wherein the packaging atmosphere includes exogenous ethylene and wherein the remainder of the art taken as a whole can be relied on as above to teach the manipulation of the well known produce storage variables of weight, permeability, etc.

All of applicants remarks filed 8/19/04 have been fully and carefully considered but are not found to be convincing, essentially for the reasons given above. Applicant has argued each reference separately as if they were applied alone in a vacuum. The rejection is based on what the art taken as a whole teaches, and what the art taken as a whole teaches is that the storage life of any produce is a direct function of the temperature and atmosphere created in the containment receptacle, which atmosphere is achieved through the use of semi-permeable materials whose permeability is provided and are directly related to well known variables. The art taken as a whole teaches that the modified atmosphere inside the receptacle (i.e. lower than atmospheric

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oxygen and higher than atmospheric carbon dioxide) can be achieved by providing a semi permeable container which initially contains air so that the modified atmosphere occurs due to differing rates of gas permeation, or by reducing the air and allowing a semi permeable package to create a modified atmosphere, or by providing an initial modified atmosphere and semi permeable package or by employing an outer modified atmosphere around a package. The bottom line is that through these various conventional expedients, the produce is stored in an atmosphere that is known to slow down respiration and thus slow ripening. Since the claims are directed to an article and not a method, it does not appear to be relevant as to how or when the modified atmosphere is provided in the receptacle. The rejection appears to clearly state what applicants admission of the prior art is relied on to teach. Also, the art taken as a whole clearly discloses that storage temperature is, of course, a factor in produce storage.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Weinstein whose telephone number is (571) 272-1410. The examiner can normally be reached on Monday thru Friday from 7:00 AM to 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272-1398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steve Weinstein
STEVE WEINSTEIN
PRIMARY EXAMINER 1761
5/18/06